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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,270	11/09/2001	Clive D. Chandler	41890-00960	4445

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EXAMINER	
WYSZOMIERSKI, GEORGE P	
ART UNIT	**PAPER NUMBER**
1742	

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/991,270	CHANDLER ET AL.	
	Examiner	Art Unit	
	George P. Wyszomierski	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *150-165,167-174,176-196 and 198-233* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *150-165,167-174,176-193 and 211-233* is/are allowed.

6)☒ Claim(s) *194-196,198-203 and 206-209* is/are rejected.

7)☒ Claim(s) *204,205 and 210* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 194, 196, 198-203, and 206-209 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Stopic et al. article (from vol. 32 of the International Journal of Powder Metallurgy) in view of Glicksman et al. (U.S. Patent 5,429,657), for reasons of record in the prior Office Action, taken with the following.

Stopic discloses forming nickel particles by reduction of an aerosol of liquid droplets of nickel-containing precursors such as nickel nitrate by heat in a carrier gas, in accord with the instant claims. With respect to the temperature range in claim 194 as amended, Stopic indicates that it was known in the art, at the time of the invention, to perform similar processes at higher temperatures, i.e. within the ranges as presently claimed (see the top right hand column of page 64 of Stopic). With respect to the particle density of instant claim 198, the reactants and reaction conditions in Stopic appear to be identical to that presently claimed. It is thus a reasonable assumption that the final particles produced in the prior art would be of a density equivalent to that resulting from the claimed process. With respect to the range of droplet size(s) of instant claim 199, the Stopic procedure mentions only a single droplet size being used. It is thus likely that the vast majority of droplets in Stopic were not larger than twice this mentioned size. While Stopic does not recite the removal of certain size droplets as defined in instant claims 200 and 201, the examiner's position is that any non-reduced droplets in Stopic can be considered "removed" from the aerosol. Further, these removed droplets

would have a diameter "greater than a preselected maximum" or "less than a preselected minimum", in the absence of any numerical definitions of these terms.

Stopic does not disclose making an alloy in this manner, e.g. using a second metal precursor as recited in claim 194 resulting in an alloy of nickel and a second metal as further defined in claims 206-209. Glicksman, particularly columns 5-6 therein, indicates that it was known in the art, at the time of the invention, to use an aerosol reduction process involving two different metal precursors to form alloys, e.g. alloys containing palladium in an amount set forth in instant claims 208. With regard to instant claim 209, no phase segregation is stated or apparent in the Glicksman disclosure.

Thus, the combined disclosures of Stopic et al. and Glicksman et al. would have taught the presently claimed invention to one of ordinary skill in the art.

3. Claim 195 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stopic et al. in view of Glicksman et al., as set forth above, and further in view of Meek et al. (U.S. Patent 4,784,686) or Sawada et al. (U.S. patent 5,064,464).

Neither Stopic nor Glicksman discloses the use of hydrogen as a carrier gas, as required by the instant claim. Instead, Stopic discloses the use of nitrogen as a carrier gas, with hydrogen used as a reducing gas, i.e. not a carrier gas. The Meek and Sawada patents indicate the art-recognized equivalence of hydrogen to nitrogen as a carrier gas, in processes of reucing metal compounds to fine metal particles; see Meek column 1,lines 30-32 or Sawada column 2, lines 48-53. Based on these disclosures of Meek or Sawada et al., it would have been an obvious expedient for one of ordinary skill in the art to utilize a gas comprising hydrogen in the process of Stopic et al. (combined with the second metal of Glicksman et al).

4. In a response filed November 28, 2005, Applicant alleges that the claimed invention can be distinguished from the prior art in that the newly claimed temperature range in claim 194 is not disclosed by Glicksman. The examiner respectfully disagrees. While Glicksman does not disclose any examples in the claimed temperature range, Glicksman column 3, lines 61-62 indicates that the prior art process is workable as long as the reactor temperature is below the melting temperature of the desired alloy. This would include the presently claimed temperature range, particularly in those cases in which only a small amount of second metal is to produced along with the nickel. Further, page 64 of Stopic indicates that higher temperatures than those used in that reference are suitable for the same purpose as that of Stopic. In other words, both Stopic and Glicksman indicate the viability of their respective processes in the temperature range as presently claimed.

5. The examiner agrees that the amendments to claims 150 and 174 place these claims in condition for allowance, and that claim 211 should have been indicated as allowable in the prior Office Action. Thus, claims 150-165, 167-174, 176-193, and 211-233 are allowable over the prior art of record. Further, Claims 204, 205 and 210 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. All patent application related correspondence transmitted by facsimile must be directed to the new central facsimile number, (571)-273-8300. This new Central FAX Number is the result of relocating the Central FAX server to the Office's Alexandria, Virginia campus.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GEORGE WYSZOMIERSKI
PRIMARY EXAMINER
GROUP 1700

GPW
February 3, 2006